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| 10/029,613   | 12/21/2001  | Shoichi Kiyomoto     | 47258               | 4541             |
| 20454  | 7590        | 09/09/2005           | EXAMINER            |                  |
| JEFFREY C. LEW<br>2205 SILVERSIDE ROAD<br>WILMINGTON, DE 19810 |             |                      | POLTORAK, PIOTR     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2134                |                  |
| DATE MAILED: 09/09/2005  |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/029,613

Applicant(s)

KIYOMOTO, SHOICHI

Examiner

Peter Poltorak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/21/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Claims 1-17 have been examined.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 12/25/2000.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
4. Claim 1 recites: "an optical system ... comprising a lens additional to any lens incorporated in the digital camera". It is not clear whether the limitation intends to provide the constraint that the optical system is not a part of a digital camera, or whether there are (in a digital camera or an electronic apparatus) at least two lenses or something else.
5. Claims 2-10 are rejected by virtue of their dependence.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 7, 8 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by *Steinberg et al.* (U.S. Patent No. 6433818).
7. As per claim 1 *Steinberg et al.* teach an electronic apparatus comprising a digital camera (*Fig. 1*), a fingerprint reading unit having a stamping area (*Fig. 1 object 122 and Fig. 12*); and an optical system positioned in the fingerprint reading unit and comprising a lens additional to any lens incorporated in the digital camera (*Fig. 12*), in which the fingerprint reading unit is operative to direct an image of an object on the stamping area through the lens system for capture by the digital camera (*Fig. 12*).
8. As per claim 13 *Steinberg et al.* teach capturing into the digital camera a fingerprint image of a finger in contact with the stamping area, extracting information from the fingerprint image which uniquely characterizes the fingerprint image, comparing the information extracted with the fingerprint image to pre-registered fingerprint image data, and authenticating whether the fingerprint image is the same as any image contained in the pre-registered fingerprint image data (*col. 7 lines 52-62 and col. 2 lines 31-35*).
9. As per claims 4, 7, 8 and 14 *Steinberg et al.* teach that the fingerprint reading unit comprises a source of light and a prism (*col. 8 lines 2-6*), a light source that is activated when an object makes contact with the stamping area (*col. 7 lines 65-67*), and the camera operation is allowed only if a user is authorized (*col. 2 lines 31-35*).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al.* (U.S. Patent No. 6433818) in view of Official Notice.

11. *Steinberg et al.* teach the electronic apparatus as discussed above. *Steinberg et al.*'s apparatus comprises a computer (col. 3 lines 29-40).

12. As per claim 11 *Steinberg et al.* do not explicitly teach the apparatus that comprises a portable digital computer.

Official Notice is taken that it is old and well-known practice to use portable digital computers. One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a portable digital computer to take advantage of computer portability.

13. As per claim 2 *Steinberg et al.* do not explicitly teach the apparatus in which the lens of the optical system has a configuration adapted to implement hyperopia correction to the image.

However, Official Notice is taken that hyperopia correction to images is old and well-known practice (e.g. *Frieder et al.*, U.S. Patent No. 4846913, col. 6 line 23). One of

ordinary skill in the art at the time of applicant's invention would have been motivated to employ hyperopia correction to the image in order to offer a clearer image.

14. As per claim 10 *Steinberg et al.* do not explicitly teach the apparatus that comprises a pinhole diaphragm positioned between the lens of the optical system and a lens of the digital camera.

Official Notice is taken that it is old and well-known practice to use a pinhole diaphragm positioned between the lens of the optical system and a lens of the digital camera in the apparatus to capture images using lenses (e.g. *Kubo et al. U.S. Pub. No. 20010004268 [44]* or *Ishida U.S. Patent 6618136 col. 7 lines 39-44*). One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a pinhole diaphragm positioned between the lens of the optical system to control the amount of light input.

15. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al. (U.S. Patent No. 6433818)* in view of *Ball et al. (U.S. Patent No. 6368483)*.

16. *Steinberg et al.* teach the electronic apparatus as discussed above.

17. *Steinberg et al.* do not teach that the stamping area comprises a semi-transparent film.

18. *Ball et al.* teach use of a semi-transparent film and teach that such a film resists marking by fingerprints (col. 3 lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the semi-transparent film as taught by *Ball et al.* in the stamping

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area. One of ordinary skill in the art would have been motivated to perform such a modification in order to allow reading of the fingerprint efficiently multiple times.

19. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

*Steinberg et al. (U.S. Patent No. 6433818)* in view of *Rios (International Pub. WO 9319433)*.

20. *Steinberg et al.* teach an electronic apparatus as discussed above.

21. *Steinberg et al.* do not teach that the source of light comprises a window adapted to admit external ambient light into the fingerprint reading unit and that the fingerprint reading unit further comprises a light shield operative to block a peripheral portion of the light from the source from reaching the digital camera.

*Rios* teaches a window adapted to admit external ambient light (*Fig. 2 object 30 and pg. 3 last paragraph*).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement a window adapted to admit external ambient light into the fingerprint reading unit as taught by *Rios*. One of ordinary skill in the art would have been motivated to perform such a modification in order to diffuse light to a fingerprinted finger uniformly.

22. Implementing a light shield to block a peripheral portion of the light from the source from reaching the digital camera is implicit.

23. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al. (U.S. Patent No. 6433818)* in view of *Choi (U.S. Patent No. 6301375)*.

24. *Steinberg et al.* teach the electronic apparatus as discussed above.

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25. *Steinberg et al.* do not teach that the fingerprint reading unit comprises a window adapted to admit external ambient light into the fingerprint reading unit.
26. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al.* (U.S. Patent No. 6433818) in view of *Morrison* (Gale Morrison, "Electronic News, (1991) v44, n2201, p6(1) Jan 12, 1998).
27. *Steinberg et al.* teach the electronic apparatus as discussed above.
28. *Steinberg et al.* do not teach that the source of light comprises a light-emitting polymer emitting light in response to pressure from contact by an object against the polymer film.
29. *Morrison* teaches a source of light comprises a light-emitting polymer emitting light in response to pressure from contact by an object against the polymer film (*Morrison*, pg. 1).
- It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use a source of light that comprises a light-emitting polymer emitting light in response to pressure from contact by an object against the polymer film as taught by *Morrison* in *Steinberg et al.*'s invention. One of ordinary skill in the art would have been motivated to perform such a modification in order to allow capture of a fingerprint image.
30. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al.* (U.S. Patent No. 6433818) in view of *Siddoway et al.* (U.S. Patent No. 6473631).
31. *Steinberg et al.* teach the electronic apparatus as discussed above.



32. *Steinberg et al.* do not teach the apparatus that comprise a wireless telephone  
(Abstract).

*Siddoway et al.* teach an apparatus that comprises a wireless telephone.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement the invention as taught by *Steinberg et al.* in an apparatus that comprise a wireless telephone as taught by *Siddoway et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to assure that the wireless telephone could be used only by authorized users.

33. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al.* (U.S. Patent No. 6433818) in view of *Stewart et al.* (U.S. Patent No. 5898438).

34. *Steinberg et al.* teach the electronic apparatus as discussed above.

35. As per claim 15 *Steinberg et al.* do not teach correcting the fingerprint image to remove distortion.

36. *Stewart et al.* teach correcting an image to remove distortion (col. 4 lines 46-60).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to correct an image to remove distortion as taught by *Stewart et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to obtain a more accurate reading.

37. Using the corrected (cleaned) image to authenticate a user would have been implicit.

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38. As per claim 17 *Steinberg et al.* do not explicitly teach the apparatus that comprises a pinhole diaphragm positioned between the lens of the optical system and a lens of the digital camera.

Official Notice is taken that it is old and well-known practice to use a pinhole diaphragm positioned between the lens of the optical system and a lens of the digital camera in the apparatus to capture images using lenses (e.g. *Kubo et al. U.S. Pub. No. 20010004268 [44]* or *Ishida U.S. Patent 6618136 col. 7 lines 39-44*). One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a pinhole diaphragm positioned between the lens of the optical system to control the amount of light input.

39. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Steinberg et al. (U.S. Patent No. 6433818)* in view of *Stewart et al. (U.S. Patent No. 5898438)* and in further view of *Nyyssonen (U.S. Patent No. 5633714)*.

40. *Steinberg et al.* in view of *Stewart et al.* teach the electronic apparatus that corrects the fingerprint image to remove distortion as discussed above.

41. *Steinberg et al.* in view of *Stewart et al.* do not teach determining a Fourier transform function and applying inverse Fourier transform process to form the cleaned fingerprint image.

42. *Nyyssonen* teach determining a Fourier transform function and applying an inverse Fourier transform process to form a cleaned image (col. 8 lines 56-63).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to determine a Fourier transform function and applying inverse Fourier

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transform process to form the cleaned fingerprint image as taught by *Nyyssonen*.

One of ordinary skill in the art would have been motivated to perform such a modification in order to produce a high contrast clear image.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: *Nakamura et al. U.S. Patent No. 6856695*.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

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